GE Nuclear Energy

Nuclear Fuel & Components Manufacturing
General Electric Company
P.O. Box 780, Wilmington, NC 28402
919 675-5000

March 18, 1994

Director
Office of Enforcement
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: REPLY TO NOTICE OF VIOLATION

References:
(1) NRC License SNM-1097, Docket 70-1113
(2) NRC Inspection Report 94-02, 2/17/94
(3) Notice of Violation (NRC Inspection Report No. 70-1113/94-02), 2/17/94

GE Nuclear Energy hereby responds to the Notice of Violation dated February 17, 1994, that resulted from the NRC inspection conducted at our licensed fuel fabrication facility by Mr. R. B. Shortridge and B. A. Parker during January 10-14, 1994.

Our reply to the item of apparent noncompliance with NRC requirements is provided in the attachments to this letter.

Sincerely,

GE NUCLEAR ENERGY

T. Preston Winslow, Manager
EP&S and MC&A

/zb
attachments

cc: Stewart D. Ebneter, Region II
TPW-94-031

ATTACHMENT 1

The information given below refers to the Notice of Violation dated February 17, 1994, relative to NRC Inspection Report 94-02.

Violation

Safety Condition S-1 of Special Nuclear Materials License No. SNM-1097 requires that licensed material be used in accordance with statements, representations, and conditions contained in Part I of the Application dated October 23, 1987, and supplements thereto.

Part I, Section 2.7.1 of the licensee's Application for License No. SNM-1097 specifies, in part, that written operating procedures incorporate nuclear safety control limitations established by the radiation safety function.

Radiation protection activities associated with radiological contamination control and measurement were specified in Licensee Procedure NSI 0-6.0, Contamination Measurement and Control, Revision 26, dated December 1993. Section 3.0 of NSI 0-6.0 addresses scheduling, survey frequency, responsibility for performance and documentation of surveys, and responsibility for followup on survey findings.

10 CFR 20.1501(a) in part, requires that each licensee shall make or cause to be made, surveys that are reasonable under the circumstances to evaluate the concentrations or quantities of radioactive materials; and the potential radiological hazards that could be present.

Contrary to the above, the licensee failed to conduct surveys necessary to identify radiological hazards present. Loose Alpha contamination surveys directed by an NRC inspector from January 12-14, 1994, showed contamination levels well in excess of levels reported in routine licensee surveys documented from November 22, 1993 through January 13, 1994. Also, many of the points in the NRC directed survey well exceeded limits requiring immediate clean up by licensee procedure NSE 0-6.0. The licensee initiated immediate decontamination when informed of the Alpha contamination levels exceeding license action levels.

This is a Severity Level IV violation (Supplement VI).

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GE Response to Violation

GE denies the violation. The surveys performed by GE are reasonable under the circumstances and accordingly satisfy the requirements of 10 CFR 20.1501.

As stated in 10 CFR 20.1003, "Definitions", the term survey means an evaluation of the radiological conditions and potential hazards that may be present. Section 20.1501 further requires each licensee to perform surveys that "are reasonable under the circumstances" to evaluate the extent of radiation levels, concentrations or quantities of radioactive material; and the potential radiological hazards that could be present. Survey program guidance is provided in Regulatory Guide 8.24 "Health Physics Surveys During Enriched Uranium-235 Processing and Fuel Fabrication". Among other things, Regulatory Guide 8.24 states "[A]lthough surface contamination contributes to the external radiation dose of workers, the primary concern is to avoid internal deposition resulting from the intake of loose uranium by inhalation, ingestion or penetration of the skin."

Consistent with the regulations and Regulatory Guide 8.24, there are a number of activities performed at our facility to meet survey requirements. These include routine and special contamination checks (wipes, direct measurements and visual observations), air sampling (stationary, hi-vol, lapel) and bioassay measurements (lung and urine). Collectively, these surveys are reasonable under the circumstance to evaluate the extent of radiation levels and the potential radiological hazards.

During Inspection 94-02, one element of the survey program (independent of the complete set of elements) came into question involving the number of contamination smear locations and frequencies within a contamination controlled area.

Survey procedures establish contamination control practices and set rigorous guidelines for action when control levels are exceeded. Nevertheless, as the procedure states and as the regulations allow, the situation has to be evaluated so that it is reasonable under the circumstance. The area in question is within a contamination control fuel processing area and requires Nuclear Safety training and protective clothing for entry and personal contamination monitoring upon exit. Even though we meet ALARA requirements, it is not unreasonable with large amounts of in-process uranium to find levels above action levels from time to time.

Within contamination control areas, a smear collection philosophy has been established based on regulatory guidance, years of experience and knowledge of GE's uranium processing operations.

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Objectives of the contamination smear program are to:

- Control and identify the locations of uranium material within areas routinely encountered by personnel.
- Check the integrity of containment systems.
- Avoid or minimize to the extent practical internal deposition resulting from the resuspension of loose uranium.
- Provide an early indication of equipment or personnel practice problems.
- Provide the data to assist in identifying trends.

Contamination smear locations are selected by trained and qualified health physics personnel who possess detailed knowledge of each uranium processing operation and current survey information from all elements of the survey program. As a result, within the contamination controlled areas, routine smears are collected in personnel traffic areas and areas routinely encountered during a worker's normal activities. These areas are selected to provide rapid detection of dispersible radioactivity in the work zone and minimize the potential for contamination movement and resuspension.

Contamination smear results are compared to administrative action guidelines established to ensure appropriate actions are taken. If contamination is identified in excess of action guidelines, cleanup actions are taken based upon knowledge of the particular circumstance and characteristics of the uranium involved. In instances where survey information indicates the need for more than routine evaluation, area supervision and the Radiation Protection function initiate actions to identify the probable cause and steps to minimize exposure.

The special contamination smear locations requested by the NRC during Inspection 94-02 while providing useful information, were inconsistent with our experience based smear collection philosophy. All but one of the requested locations which exceeded internal action levels were in areas not routinely encountered or readily accessible by workers during their normal course of duties. This one area was the surface of molybdenum furnace skids which are handled by workers wearing protective gloves. Regardless, GE's collective survey data confirms that uranium levels identified in these locations were not increasing personnel exposures. However, they were immediately cleaned up according to our internal procedures.

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Other elements of our survey program demonstrate that radiation levels and potential radiological hazards are being properly characterized. For example, air sample results from the ceramic processing area where many special smear locations were requested, have consistently averaged 10% of the insoluble class Y DAC (2 X 10^{-12} µci/ml). These low airborne levels are confirmed by routine uranium lung count measurements on workers from this area.

The special cleanup activities initiated during and after Inspection 94-02 had an adverse affect on airborne levels in this area. For example, airborne levels generated during cleanup activities on January 13 and 15 increased from the previous weekly averages by a factor 2 to 3. In the absence of survey information which indicate exposures to workers, this type of routine activity is therefore contrary to good radiological control practices.

As a result, we believe surveys have been and are being made which are reasonable under the circumstances pursuant to 10 CFR 20.1501 and request that the violation be withdrawn.

Notwithstanding our position on this violation, Inspection 94-02 has identified Radiation Safety program improvement opportunities.

During and subsequent to the inspection, significant effort has been made to improve general housekeeping within fuel processing areas. These steps have been taken in order to maintain better control of in-process materials and further minimize exposure potentials. Housekeeping improvements have been achieved and recognized.

In addition, procedural upgrades are being developed which will better describe our contamination survey philosophy. Additional procedural guidance will be provided to clarify smear collection criteria and application of action guidelines. These procedural changes are expected to be completed by April 15, 1994.